characterised in that said weighting matrix is determined with the aid of an iterative procedure implementing a gradient algorithm.

8. (Amended) Reception method according to claim 1, of the type implementing a multi-user detection technique, according to which the different spread codes of the multiple users are known from the receiver, characterised in that the same equalisation technique is also used in a stage for annulment of multiple access interference.

Claim 9 is unchanged.

10. (Amended) Reception method according to claim 8, characterised in that it implements:

- an initial stage producing an estimate of multi-user interference;
- a subtraction stage of said estimate of multi-user interference from the received signal;
- an equalisation stage on the corrected signal thus obtained.

11. (Amended) Equalisation method implemented in the reception method according to claim 1.

12. (Amended) Reception device implementing the method according to claim 1.

Please add new claims 13-20 as follows:

13. The method according to claim 11, wherein equalizing disturbances is performed by an equalisation matrix carrying equalisation coefficients representative of the transmission

channel, at least certain of the coefficients other than the coefficients of the diagonal of the matrix being non nil.

14. The method according to claim 13, characterised in that the coefficients of said equalisation matrix are determined according to the Wiener filtering technique applied globally over the received signal as a whole, taking into account the de-spreading functions.

15. The method according to claim 14, characterised in that said weighting matrix is

$$G = H^{*}.(H.C.A.C^{T}.H^{*} + \frac{\sigma_N^2}{E_S}.I)^{-1}$$

where H = matrix representative of the transmission channel;

C = matrix of the spread codes;

A = $\{a_{jj}\}$: diagonal matrix with n_{jj} non nil if the user j is active;

$^2{}_N$ = noise variance affecting each sub-carrier;

E_S = mean power of received signals;

I = the identity matrix.

16. The process according to claim 15, characterised in that the estimated quantity $\acute{o}^2{}_N/E_S$ is compared to a threshold value, and replaced by said threshold value when it is lower than the latter.

17. The receiver according to claim 12, further including an equalisation matrix carrying equalisation coefficients representative of the transmission channel, at least certain of the coefficients other than the coefficients of the diagonal of the matrix being non nil.

18. The receiver according to claim 17, characterised in that the coefficients of said equalisation matrix are determined according to the Wiener filtering technique applied globally over the received signal as a whole, taking into account the de-spreading functions.

19. The receiver according to claim 18, characterised in that said weighting matrix is

$$G = H^{*}.(H.C.A.C^{T}.H^{*} + \frac{\sigma_N^2}{E_S}.I)^{-1}$$

where H = matrix representative of the transmission channel;

C = matrix of the spread codes;

A = $\{a_{jj}\}$: diagonal matrix with n_{jj} non nil if the user j is active;

$^2{}_N$ = noise variance affecting each sub-carrier;

E_S = mean power of received signals;

I = the identity matrix.

20. The receiver according to claim 19, characterised in that the estimated quantity $ó^2{}_N/E_S$ is compared to a threshold value, and replaced by said threshold value when it is lower than the latter.